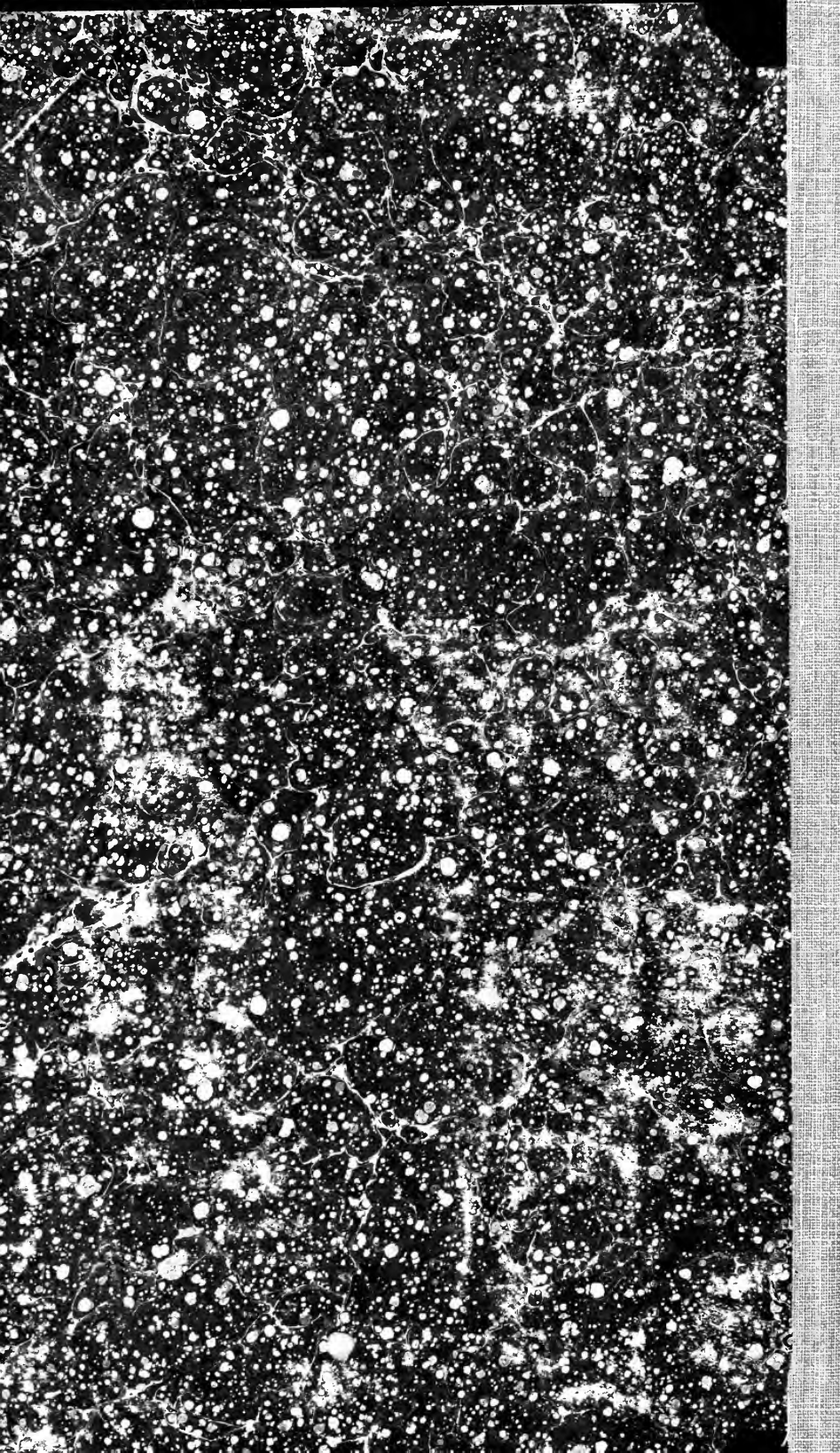
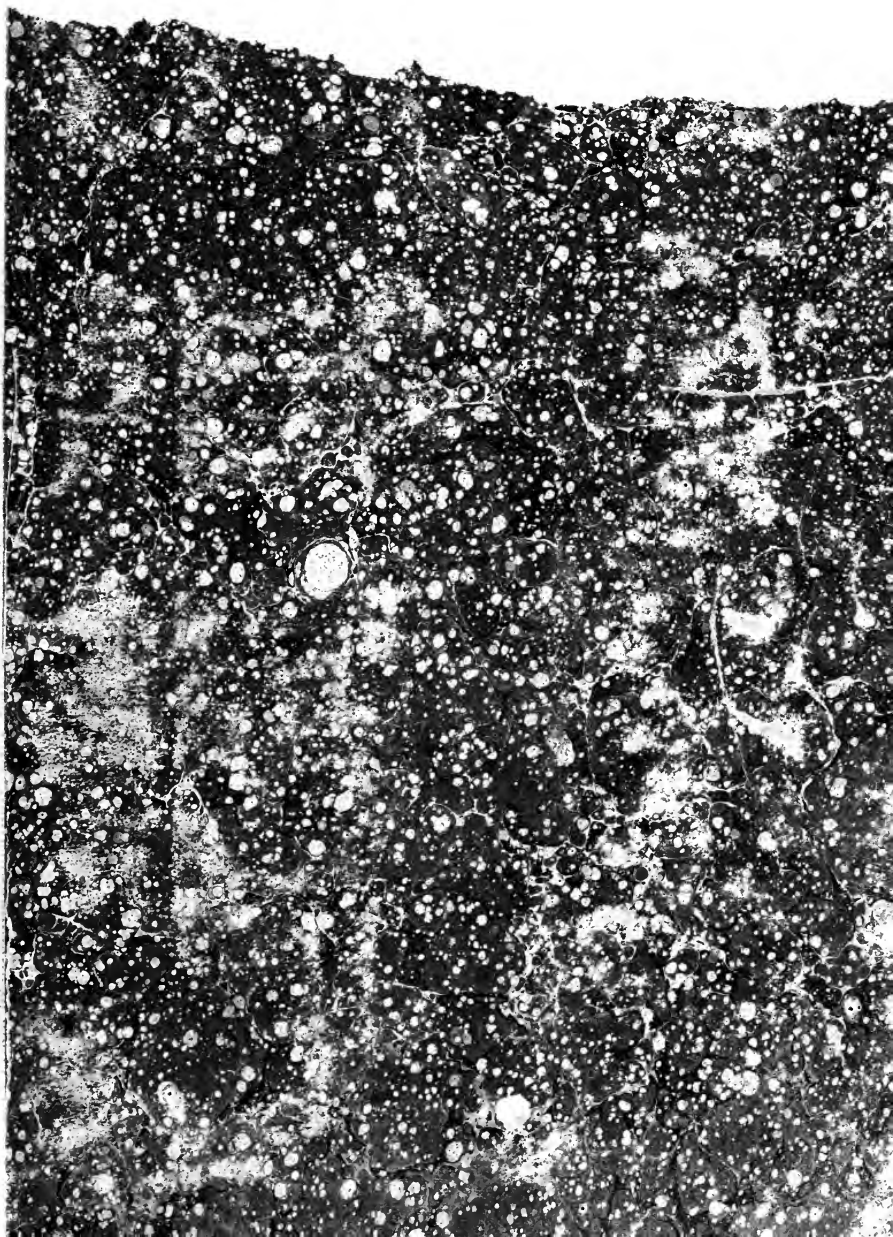


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A NATIONAL UNIVERSITY

A STUDY

WILLIAM A. MOWRY





## *A NATIONAL UNIVERSITY.—A STUDY.<sup>1</sup>*

BY WILLIAM A. MOWRY.

**E**DUCATION in the United States has experienced within the last century a rapid growth and a remarkable development. Many circumstances have been favorable and many unfavorable. The early settlers of this country from Europe were generally of hardy and vigorous races, intelligent, ambitious, many of them possessing high attainments and strong character. Several of the English colonies early manifested a broad interest in learning, with rare good judgment appreciating the fact that a new country especially must depend greatly for its success upon the intelligence of the masses and the higher education of the learned professions. The public school system of New England dates back almost to the beginning of the several settlements. The Boston Latin School was founded in 1635, Harvard College in 1636, and a tax was laid by the town of Dorchester for the support of a public school in 1639. Jefferson's plan, which he advocated at an early day, was that the state should take control of the higher and secondary education while the elementary education should be carried on by local taxation and private philanthropy. The general public school system, supported by tax upon the inhabitants of the state and the towns, gained a strong foothold quite early in the history of the eastern and northwestern states. Since the reconstruction of the southern states after the close of the late war, every one of these states has established and put in operation a

<sup>1</sup> A paper read before the National Educational Association at Nashville, July 17, 1889.

system of public schools. We have, therefore, today, a well established system of public instruction for the masses of children which furnishes a good elementary education, in every state and every territory of this country, except Alaska, and there the system in a modified form has lately been put into operation by the President. The general diffusion of the elements of learning among all the people is the pride and boast of this republic. In our political system we have reached so near to universal suffrage that it has been easily apparent to all that the stability of the state absolutely demands the general intelligence of all the people. The large number of newspapers, especially the dailies, the immense circulation of the great magazines and other periodicals, together with an unprecedented quantity of books issued from the American press, — especially within a few years past, — are significantly indicative of the strong fact that we are emphatically a reading people. There is possibly no other nation today where the elements of an education are so generally diffused, or where all classes of the people do so much general reading.

These statements are trite and commonplace. They are disputed by none, but admitted by all. They are mentioned here for the purpose of laying a basis for several deductions later on. When we turn to the secondary and the higher education we find their history no less remarkable. Harvard College was established in 1636, William and Mary in 1693, Yale College in 1700, the College of New Jersey in 1748, the University of Pennsylvania in 1749, Columbia College in 1754, Brown University in 1765, Dartmouth College in 1770, Rutgers College in 1771, Hampden-Sidney College in 1775. Prior to the revolution, then, the thirteen infant colonies had established ten colleges. In Massachusetts alone the following, which may be termed academies, were established before 1800, and are in successful operation to this day: —

The Boston Latin School, established in 1635; Elliott School, Jamaica Plain, 1691; Dummer Academy, South Byfield, 1763; Phillips Academy, Andover, 1778; Leicester Academy, Leicester, 1784; Derby Academy, Hingham, 1785; Westford Academy, Westford, 1792; Lawrence Academy, Groton, 1793; New Salem Academy, 1795; Bristol Academy, Taunton, 1796; Deerfield Academy, Deerfield, 1799.

The history of academies in this country makes a chapter of profound interest to all educators. Within the last forty years in

many sections of the country, especially in New England, the academies have in very many instances given place to the public town high school. The establishment of this public high school has marked an important era in the development of the higher education. While it is true that evolution of education is necessarily from above downwards, from the college to the ancient "grammar" school, and from that to the "dame" school, yet the reflex influence is also well marked. The establishment, in Massachusetts or in Michigan, of a vigorous public high school in every considerable town largely increases the number of students in the colleges.

The foundation and growth of the colleges of America also furnish many lessons of importance to the student of education. Not merely is the foundation of the colleges in the colonial period to be noticed, but the rapid establishment of colleges and so called universities in the newer northwest reflects great credit upon the intelligence and enterprise of the pioneers. The latest report of the commissioner of education, 1886-7, names three hundred and sixty-one colleges of liberal arts, including twenty-four state universities, thirty-three schools of science endowed with the national land grant, and thirty-two not endowed with a national land grant. In addition should be mentioned seven colleges for women. This makes a total of four hundred and thirty-three collegiate institutions in this country. The number of academies and other secondary schools for both sexes given in the commissioner's report is five hundred and fifty-one, the number for boys alone two hundred and thirteen, for girls alone one hundred and seventy-two, of similar schools supported wholly by public funds, four hundred and nineteen, and institutions for the superior instruction of women, one hundred and fifty-two, making a total of fifteen hundred and seven, provided some of these are not reckoned twice. With all these various classes of institutions for the higher and secondary education — not to mention the professional schools, and their name is legion — and with our total of twelve million children, or nearly so, in schools of all grades, it might almost be said that we are a nation composed of schoolmasters, schoolma'ams and school children.

During the last twenty-five years vast strides of improvement have marked the progress and development of our schools, seminaries, and colleges throughout the country. Compulsory laws

have been enacted, the length of the school year has been increased, the qualifications of teachers have been raised, normal schools have to a marked degree elevated the character of the teachers and the teaching, methods have been decidedly improved and special attention has been given on all hands to the study of the principles of psychology and didactics.

But among all the points indicating growth, progress, development and improvement, none is more striking than the ever increasing attention paid to scientific subjects. The study of natural science, especially of physics and chemistry, has made marvellous improvement and produced astonishing results. The application of science to inventions, especially to inventions of labor-saving machines and new methods of communication and transportation is without parallel in the history of the world. The business of the United States Patent Office is simply gigantic. Possibly in no other way may the improved and increased educational facilities be more thoroughly tested or more accurately measured than by the patent office. I am not unobservant of the advance made of late in Johns Hopkins, Harvard, Yale, Cornell, Michigan, and other colleges. Indeed, the college curriculum in general has been decidedly improved and elevated, but all this does not meet the requirements of the case. Something more and higher is imperatively demanded.

Within the last twenty-five years it has become more and more apparent that the great need of this country educationally is in the way of advanced learning. Relatively, we have primary schools enough, and grammar schools enough, and possibly enough of the secondary schools, — if they were only better, — and surely we have colleges and universities enough and to spare. But what means Cornell University, and Johns Hopkins University, and now what means Clark University? The establishment and the remarkable success of Johns Hopkins University at Baltimore are strongly indicative of the absolute necessity of pushing our American education forward into new fields, and upward to more elevated plateaus. It is a common remark and notoriously true, that in America the elements of education are more widespread than in Europe, yet the higher education of the old world is far in advance of anything to be found with us. Moreover, our situation and our circumstances are such, our necessities, our needs, our opportunities, that precisely the reverse of this ought to be true. Do not

lose sight of the fact that this is a very large country. It is energetic, enterprising, wealthy, and fast becoming populous. There is a greater demand, a stronger necessity today with us for higher knowledge, deeper insight, a more thorough study and apprehension of all branches of knowledge and learning than exists in any other nation under heaven. We could today utilize to a greater degree than any other people, profound researches in nature, in art, in the humanities. There is no department of the higher education which is not needed today by our people to be pushed to its utmost limit. In how many cases do the aimless searchings after truth among us remind one of a staunch vessel, strong and well equipped, drifting in mid ocean, without a pilot, without a chart, without a compass, even without a rudder. In natural science — including all its departments, in history, in classical learning, in philology, in the useful arts and the fine arts, in law and medicine and divinity, in telegraphy, in telephony, in telephoty, in social science, especially economics and civics, in all the range of the metaphysics, and in fine, in every department of human learning, thought and investigation, there is a marked necessity for higher study and higher instruction than this country has yet produced.

Pause a moment with me to observe a few of these crying necessities. With all the advance which we have made in the study of natural phenomena, there is yet no man living who understands the theory of storms; no man living who can satisfactorily explain the ocean currents; nobody has yet discovered a satisfactory explanation of the tides; no complete, rational theory of medicine exists, but we are still tied down largely to empiricism. Psychology is based on physiology, but no one yet comprehends the relations and the action of the two lobes of the brain and the two sets of nerves. No satisfactory theory is yet agreed upon with respect to bacteria and the germs of disease in general, epidemics, epizoötics, and the like. No man has yet arisen who can successfully untie and untangle the knots and snarls which Adam Smith, more than a century ago, pushed out before the learned men of the world, and over which they have ever since been quarreling. Our politicians and our statesmen are still discussing with great vigor and force the question of protection and free trade, mono- and bi-metalism, of state rights and national unity, of home consumption and foreign commerce, national subsidies and natural currents of trade, and possibly they are now as far from an agreement as ever.

It is not to be expected that any one panacea can be discovered, or any one patent medicine can be compounded which will free the body politic from all these ills and all this ignorance that the nation is heir to, but the question is a fair one, and certainly one of great importance, whether it is not possible by proper means and reasonable efforts to diminish to a considerable extent the difficulties and dangers here pointed out.

The success of Johns Hopkins University has been phenomenal. It has given opportunities for a higher standard of scholarship than we before possessed. It has helped to elevate the work of all the colleges, but it has also served to show clearly the necessity of still further advances. What is needed now is an institution far beyond Johns Hopkins. The liberality of wealthy Americans has been so great as almost to make it seem that it had no limit, but it certainly is not without limit. It can hardly be expected that private munificence will be able to establish a university in this country with sufficient means to perform adequately the service required in the higher realms of learning. We are therefore shut up to the necessity of having this needed institution established by the whole people as represented by our national government. That, and that alone, will be able to accomplish this great work.

Such an institution as is needed ought to be endowed with productive funds to the extent of, at least, two hundred million dollars. This at three per cent. interest would bring an annual income of six million dollars. If the government of the United States should set apart this amount of its bonds for this specific purpose, to be kept at interest, so that there might be a reliable permanent annual income of at least six million dollars, the problem of the much needed higher development of profound learning would at once be on the way towards a solution.

The first question in the discussion of a proposition of such proportions deals with the ability and the advisability of the national government to make and endow such an establishment. There is an opinion, more or less prevalent in every community, that our national government had better not meddle with educational matters. It is true that the national government, as such, is not committed to any general system of education, because it was the policy of the framers of our constitution to leave in the hands of the states and the people of the states all rights and duties which did not seem necessary to be conferred upon the national government.

The general government has, however, in various ways committed itself to the cause of education. In addition to setting apart the 16th and 36th sections of each township for educational purposes, appropriations of land in the newer states have been made for state universities. Fifty years ago a surplus fund of about thirty millions of dollars had accumulated in the national treasury. This surplus revenue was distributed, by an act of Congress, among the states then existing. Many of the states set apart their share of this fund for school purposes. The government has maintained at its own expense, a military academy at West Point, for the education of army officers; a naval academy at Annapolis, to educate officers for the navy; a college for deaf mutes at Washington; a school for instruction in the signal service at Fort Whipple, Va., near Washington; and Congress has from time to time during later years done much for the education of the Indians. It has, especially of late, made liberal appropriations for the excellent schools for the Indian youth now maintained at Hampton, Va.; Carlisle, Pa.; Salem, Ore.; Santa Fe, N. M.; and other places. It has maintained common schools at various military posts, and the President has lately established a system of education for the territory of Alaska. It has established and has for many years maintained with great profit to the nation, a Bureau of Education, which by the collection of statistics and the publication of useful circulars of information, has done much to elevate the general status of education.

The founders of the republic were strongly impressed with the necessity of a national university. Washington, in his last will and testament, made a liberal bequest "towards the endowment of a university to be established within the limits of the District of Columbia under the auspices of the general government," and he said that "the accomplishment of the object [will be] obtained, I have not the smallest doubt, before many years pass away." In making his bequest, Washington thus clearly and fully sets forth his views concerning a national university: "It has always been a source of serious regret with me to see the youth of these United States sent to foreign countries for the purpose of education, often before their minds were formed, or they had imbibed any adequate ideas of the happiness of their own; . . . for these reasons it has been my ardent wish to see a plan devised, on a liberal scale, which would have a tendency to spread systematic ideas

through all parts of this rising empire, thereby to do away with local attachments and state prejudices, as far as the nature of things would, or indeed ought to admit, from our national councils. Looking anxiously forward to the accomplishment of so desirable an object as this is (in my estimation), my mind has not been able to contemplate any plan more likely to effect this measure, than the establishment of a university in a central part of the United States, to which the youths of fortune and talents from all parts thereof might be sent for the completion of their education in all the branches of polite literature, in the arts and sciences, in acquiring knowledge in the principles of politics and good government; and, as a matter of infinite importance in my judgment, by associating with each other, and forming friendships in juvenile years, be enabled to free themselves in a proper degree from those local prejudices and habitual jealousies, which have just been mentioned, and which, when carried to excess, are never failing sources of disquiet to the public mind, and pregnant with mischievous consequences to this country."

The project has from time to time been entertained and plans proposed by many of our greatest writers, most profound thinkers, and wisest statesmen. It was discussed at length by this Association at Elmira and Detroit, in 1873 and '74. Several articles of great value have lately appeared in our magazines. Some of our most eminent educators, like Ex-President White of Cornell University, Dr. William T. Harris, and others, have discussed the subject with great ability. No valid objections against the general idea have yet been made. The great difficulty has been to devise a plan sufficiently well defined and free from objectionable features which would seem feasible, and especially a plan so formed as to insure its perpetuity, entirely freed from politics, political parties, jobbery and fluctuations, thereby ensuring a wise and steady and permanent management. I shall content myself in the remainder of this paper with the purpose without quoting from authorities, plainly and concisely, and I trust intelligently, to set forth a plan on which it has seemed to me possible for the government to establish a national university which should meet the wants of this great country, and elevate to a high degree good learning in every desirable direction with the wisest and happiest results.

#### I. PERMANENT INVESTED FUNDS.

According to the census of 1880, the estimated true valuation



of the property in the United States was forty-three thousand six hundred and forty-two million dollars. The estimated true value in 1870 was thirty thousand sixty-eight million five hundred and eighteen thousand five hundred and seven dollars. These figures show an increase of forty-five per cent. in ten years. Doubtless the wealth of the country has increased during the present decade fully as much. This estimate would give for the entire true valuation of the property of the country in 1890, sixty-three thousand two hundred and eighty million dollars. If the government should set aside for the purpose of a national university two hundred millions, it would be equivalent to an assessment of less than one-third of one per cent. on the estimated true valuation of the property of the country. Please bear in mind that this is not to be an annual assessment, but this appropriation, once for all, of two hundred million dollars would be the permanent endowment of this great university. This endowment could be effected without any direct tax, by turning over to the trustees of the university that amount of government bonds. It is estimated that this sum would be ample for all purposes for a long period of years. The institution must be a growth. It must begin with a few students, and increase year by year in numbers and in the breadth of the instruction. Should the institution succeed in accomplishing what it is confidently believed it would accomplish, then fifty years hence, more or less, if a larger endowment was required it could be made with the greatest ease. At that time there would be, doubtless, no difficulty, should the amount be needed, in raising this endowment to five hundred, or even a thousand million dollars.

## II. THE SCOPE OF THE UNIVERSITY.

I do not think there would be sufficient reasons for establishing by the government a national college of the ordinary type. The state universities and the large number of colleges established in the several states by private munificence are sufficient for the needs of the people. If the proposed national university were to be modeled after the plan of Harvard or Yale, Cornell or Ann Arbor, or even Johns Hopkins, it had better not be founded. The purpose and scope of such an institution should be for higher and broader work than can now be done in any existing institution. Its object should be largely for original investigation. It should, in many departments at least, aim primarily to reach out

to the unknown. Its standard should be higher than that of any institution in the world. It should have no undergraduate courses, but all of its work should be above and beyond the ordinary college curriculum. The institution should be closely connected with the Smithsonian Institution; the National Museum; the Bureau of Lighthouses; the Geological Survey; the Coast Survey; the Department of Agriculture; all scientific investigations of the department of the navy, such as deep sea soundings, ocean currents, tides and the like; the weather bureau; the congressional library, and all other departments of the government where the connection would be mutually advantageous. It should include the Bureau of Education, the work of which should be broadened and strengthened.

### III. ITS COURSES OF STUDY.

The plan for such a university as here contemplated proceeds on the supposition that the funds at its disposal from year to year are amply sufficient to allow its members and fellows to pursue lines of study for any number of years, even through a lifetime.

(a.) *In Natural Science.* The lines of study to be pursued in this university in the department of natural science should include the higher realms of investigation in geography, physics, chemistry, meteorology, zoölogy and natural history, physiology, biology, botany, astronomy, — including especially the investigation of the laws and phenomena of the solar system and various lines of study in relation to the fixed stars, nebulæ, and theories of the universe; and special studies in whatever direction might seem, from time to time, wise to undertake. In mentioning the foregoing list, classification of the sciences is not intended, but only to call special attention to certain lines and topics which seem especially to need investigation.

(b.) *The Mathematics.* Here the effort should be to push this branch of study, like all other branches, to the farthest limit. The higher mathematics, algebra, geometry, trigonometry, analytical geometry, the calculus, the mathematics of the earth, e. g., its quantity of matter, weight, size, diameter, circumference, absolute length of a degree of longitude at different latitudes, absolute length of a degree of latitude from the equator to the poles, systems of measurements, etc., astronomical mathematics with all its varied applications in different directions, and in short the study

and investigation of any and every department of mathematical enquiry which might seem wise, necessary or useful.

(c.) *Language Study.* Under this head should be included the greatest facilities for the study of every language, ancient or modern, that might seem desirable, and to such an extent as might seem desirable; the literature of all nations and of all times; all questions of profound inquiry into the Latin and the Greek languages and literatures, the investigation of intricate and disputed questions concerning modern or ancient languages, and all branches of the study of philology.

(d.) *History.* Here is a branch of learning which is even now but beginning to be developed and pursued scientifically. Instruction should be given in the philosophy of history, the laws of history, the history of nations and peoples, with special reference to the causes and accessories of their development, growth, strength, and decay; the characteristics of races; the influences of climate; the effects of institutions, and in fine the general laws and philosophy of the development of mankind. Special attention should be paid to the study of our own history and to the types of mind necessary for successful historians and the underlying laws and principles that should govern the writing of any history, bearing in mind the practical advantages which would accrue from the introduction of better and more scientific methods of studying and writing history.

(e.) *The Metaphysics.* In this department should be elaborated the best methods of study and of teaching the most profound philosophy of all metaphysical inquiry. An historical investigation should be early made into the various leading schools of philosophy in the past, their strength, their weaknesses, and their influence upon human thought. Farther analysis here is unnecessary.

(f.) *Social Science.* Under this head might perhaps be included the study of economics, civics, labor and capital, penal and reformatory institutions, the state and education, and many other subjects which need not be specifically mentioned.

(g.) *The School of Law.* There should be connected with this institution a department for the study of law, which should include a more scientific and complete investigation of the underlying principles of this important line of human inquiry than has ever before been attempted. The department of international law

should be made prominent. The principles of arbitration and peaceful settlement of international difficulties should be elaborated. The principles of common law and of the various branches of law practice as applicable to business and to the development of the state should receive special consideration. The history of the leading systems of law, ancient and modern, should be carefully studied. Improvements in our codes should be suggested. There should be a school of diplomacy for instruction in the principles and duties of statesmen, foreign ministers, consuls, etc.

(h.) *The School of Medicine.* It should not be the province of the school of law in this institution to make lawyers, but to study the intricate questions of the higher range of topics relating to the fundamental principles and practices especially in reference to their bearing upon national and governmental matters. Nor should it be the province of the school of medicine to fit young men for the ordinary practice of the healing art, but to develop a higher range of thought and knowledge and work along the line of specialties in which so great advance and improvement have been made of late, particularly in the schools of the old world. In connection with the medical department of the army and navy there should be furnished in this institution the best facilities for this study which the world can afford. Suppose that one man, or ten men, should devote their entire lifetime to the study of bacteria, what important results might be among the possibilities. What might not such an institution have done for Jacksonville.

(i.) *Engineering.* In connection with the corps of engineers in the army there should be furnished in this institution the best facilities for the study of the highest range of thought and practice in railroad engineering; mining engineering; topographical engineering; bridge building; and every part of this practical and useful science and art. The matter of river and harbor improvements by the general government might be placed under the care of this institution.

(j.) *The Science of Warfare.* It is possible that the military school at West Point and the naval school at Annapolis might be made departments of this institution, receiving thereby great advantages and without transferring the immediate control from the departments of the army and the navy. Or, the West Point cadets — such as might be the best qualified — might, after graduating, go to Washington to study for professorships. In addition

to these schools there might be established courses of lectures and study for superior army officers, and perhaps others, for the investigation of advanced modes of carrying on war whenever the necessity may arise.

(k.) *The Weather Bureau.* This bureau of the government should become a part of the national university and form a regular department in its study and work. The most learned professors which the world affords should here give instruction and pursue investigations in this intricate science.

(l.) *The Census Bureau* should be a permanent department under this university, and there should be in connection therewith a well organized bureau of statistics.

The foregoing list of branches for study and for investigation are in no sense designed to be scientifically arranged or to be exhaustive and complete, but they have been introduced only for the purpose of giving a general idea of the plan and scope which might characterize such an institution. All that is intended to be conveyed in this direction is simply the fact that if our government should establish a national university, it should be the principal design and aim of such an institution to investigate in the broadest and deepest manner possible all branches of higher learning, and to carry this investigation to the farthest possible limit. I have not mentioned the study of the fine arts, music, painting and sculpture, although they might perhaps as well be included as any of the courses named. The civil service bureau, and from time to time other new bureaus should be added to this university. Indeed, there seems to be no good reason why the courses of study should not be co-extensive with the limits of human thought and investigation.

This is not the place or the time to discuss the problem of the education of women. It would seem plain, however, that a great national university like that here advocated, should not ignore the claims of woman to a superior education, and should not omit to make provision for the highest intellectual elevation of woman in this country. There are at least many branches of study, if not all, to which she should be invited. The recent death of Professor Maria Mitchell, the eminent astronomer, emphasizes the right and the necessity to make proper provision for woman in such an institution. The details, however, must necessarily be left to the wisdom of the board of trustees.

## IV. ITS PLAN OF ORGANIZATION.

I am not unaware of the fact, that concerning every one of the topics here discussed there will naturally be found very different opinions and views from those here given. I am only aiming to express, as clearly as I may, the plan which lies in my mind. I do not anticipate that this scheme will be at once adopted by our government, nor do I even ask the approval of this association. My sole object is a desire to present for further thought and general consideration a broad plan such as, if carried out, might be found of great advantage to the country. It has seemed to me that the following might be not an unwise plan for its organization, and every one will see at a glance that this would give us the greatest and broadest educational institution in the world. It should be established by the United States government. It should be at once placed upon an independent financial basis. Its funds should be two hundred million dollars. The entire amount should be invested as permanent funds, with an unchangeable provision that only the income of the whole amount should be used. Of course, it would require several years to get such an institution into full working order, and during these years the income of six or seven millions each year would be sufficient to erect and equip the proper buildings and furnish the necessary apparatus. These buildings should be located in Washington. It were better to have them on government lands, although this is not essential. It might be thought advisable to have branches in the various sections of the country for experiments and the study of agriculture, floriculture, arboriculture, and for the study of the flora and fauna in the different latitudes. It has already been said that the university should be beyond the reach of politics and political influence. For this purpose its government should be in the hands of a board of trustees who could be removed only by impeachment and trial before the Supreme Court of the United States. Thirty members of this board should be selected and nominated by the President, and confirmed by the Senate, and then ratified by the Supreme Court of the United States. The remaining members of the board of trustees should be, *ex officio*, the president of the United States, the vice-president, the speaker of the House, the chief justice of the Supreme Court, the commissioner of patents, the secretary of the Smithsonian Institute, the commissioner of education, the librarian of Congress, and possibly one or two oth-

ers. The term of office of the *ex officio* members should be during the term in which they hold their official positions respectively. The thirty members, in the first instance, should be elected for the following terms: Three for one year, three for two years, three for three years, and so on; the last holding office for ten years. Afterwards, every member is elected for ten years. This method would cause the election of three members every year. Members are eligible for re-election. The board fills all vacancies. It might be desirable for the president of the university to be a member of the board of trustees. It might perhaps, add to the strength of the management if the presidents of ten of our leading colleges or universities should be *ex officio* members of this board. This would make sure of an element of high scholarship and practical acquaintance with the best college work of the country and would keep these leading institutions in close touch and sympathy with the university. It should be the duty of the board of trustees to shape the policy of the university, to inaugurate or sanction new methods, new departures, new movements, appoint the president and faculty, and to have the general oversight which is usually invested in such a board. The design of this plan of organization is to free the university from political influence, disconnect it from any and every department of the government, and permit its management to be untrammelled, wise and efficient. It would be proper for this board, when the university has come into successful operation, to devise methods by which the faculty of the different schools or departments of the university may propose to the trustees plans for their consideration and approval, or rejection.

#### V. ITS MEMBERS.

The next two topics are the most difficult to deal with. How the members and fellows of this university should be selected, and what should be the terms of admission, are questions which lie at the bottom of success for the institution. I venture to suggest in a tentative way some such plan as the following, as well calculated to secure the broadest and most generous patronage and the highest quality of talent possible: In the first place, let students be appointed to membership from the different congressional districts in the country by competitive preliminary examinations. In this way every member of the House of Representatives will have an opportunity to present to the people of his district the

chance of selecting from their scholarly young men one to be a candidate for admission to the university through its regular examination. In the next place, I would propose that every college in the country of good reputation for high scholarship, and which has the power to grant degrees, should have an opportunity to send one candidate for admission. But it must be distinctly borne in mind, that no one can be admitted a member of the university except by passing in a creditable manner a rigid examination, such as shall be laid down by the trustees, or the faculty acting under the direction of the trustees.

No tuition shall be charged for such students as have now been indicated; but, on the other hand, as the entire aim and design of the university is to benefit the country, and hence the work of the students is to be in a certain sense for the public welfare, it will probably be deemed wise and just to allow to each student thus recommended by the members of Congress or by the faculty of the colleges, a fixed sum annually, sufficient, with the strictest economy, to defray his necessary expenses,—perhaps five hundred dollars a year. Still another class of students may be admitted on their own application, each one passing, of course, the requisite examination. This class, however, will be expected to pay a reasonable tuition and will not receive pay from the university. The students thus selected will pursue the regular courses of study, some in one direction, some in another, not merely by election, but by the most careful consultation between the student and the faculty. It is to be understood that no student is to be admitted to this university except such as have completed successfully courses of study equivalent to what is required in our best colleges for the master's degree, but graduation from a college or any other educational institution is not essential for admission. Qualifications for admission are to be determined only by the regular examinations.

#### VI. FELLOWSHIPS.

Under this department the most important work of the university is to be done. There should be a class termed "Fellows of the University," who have taken the regular courses of study in this institution in some one direction,—or by exception, without having thus taken them,—for example, the line of sciences, or of classical study, or the metaphysics, or economics, etc. Every Fellow of the university is to be selected and approved by the faculty



and appointed by special vote of the trustees to carry on some line of broad study. These Fellows shall pursue studies in classes or groups, or singly as the case may require, under the direction of that branch of the faculty having charge of the particular line of study pursued. The object of this work shall be to add something original to the sum total of human learning and knowledge. Their studies may be continued so long as the faculty in charge shall deem it advisable, whether for one year or a lifetime.

Let me outline some of the possibilities of the work which might be done by the faculty and Fellows of this university. The department of geological survey should be established on such a basis that this whole country should be mapped out and its geological features and mineralogical riches should be carefully studied and published for the benefit of the country. The weather bureau should be organized in such a way as in a series of years to collect facts sufficient to form the data for a complete and scientific theory of tempests, tornadoes, and storms of all kinds. The entire theory of evaporation and the rainfall, of the winds, as to their direction and force, and all matters relating to the meteorology of the country should be elaborated and made plain. The coast survey should be reorganized and its work continued. Expeditions should be planned and executed for the study of ocean currents and tidal waves, and in fact of the entire theory and practical operation and effects of the tides. The most elaborate preparations should be made for the observation of eclipses and other astronomical phenomena. In cases of disaster, for example, the breaking down of a railroad bridge, the destruction in the Cone-maugh Valley, a great fire, an epidemic, a blizzard or a tornado, an expedition should be immediately sent to the spot for careful investigation into the causes, circumstances, and results, and all this should be tabulated for future use. In short, the object constantly in mind for the work of the Fellows of the university would be to take advantage of all remarkable phenomena and so applying the full power of the microscope of all science as to educe in every instance such knowledge as shall be for the benefit of mankind. Among these Fellows we should expect to find our poet laureate, our best writers of fiction, philosophers, inventors, discoverers, benefactors. Fellows of the university should receive a fixed salary according to their grade and experience, a salary sufficient to induce them to remain permanently at their work. In

this way we should have clustering around the national university the ablest men, the highest scholarship, the soundest philosophy, the deepest science of the world, and who can measure or weigh, or estimate the advantages which would accrue to society and the world at large from such concentration of scholarship and learning.

The United States should be not only the greatest and strongest of the nations, but she should be the wisest and most beneficent. She has laid a broad foundation for a pyramid (which should be larger and more enduring than those of Egypt), in the general diffusion of the elements of learning for all her youth in our beneficent system of public schools. Let her now, by the establishment of this national university build securely and strongly upon this basis and extend upward this great pyramid till its apex shall be high up in the heavens, above all mists of ignorance, superstition, vice and crime.



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